



## Inspector's Daily Report

	IDR Sheet 1 of	Sheets
Contract C-7852	Day Thursday	Date August 5, 2010

DIARY - Including but not limited to: a report of the day's operations, time log (if applicable), orders given and received, discussions with contractor, and any applicable statements for the monthly estimate.

Construction office called this morning to request a lift inspection for a recently shot/mucked lift around Station 1319. Marc Fish and I arrived on site at noon and met with Brad Schut, project inspector.

We first reviewed the soil-filled swale exposed in the rock cut around Station 1315 to collect information of width, current stability, nature of the material, etc. Brad checked on clear zone constraints for remedial stabilization, and apparently any protrusion (i.e., buttress, rockery wall) from the existing cut face would need to be protected with concrete barrier. We said we would work up a stabilization design and forward within the next week, and that we did not view this stabilization work to be a time-critical item for the contractor.

NW Cascade had drilled 8 of the pattern dowels between Stations 1317 and 1318 recommended by Norm Norrish and was installing bars when we left the site around 3 PM. Rock quality appeared to improve, both in the anchor holes (as reported by NWC's driller) and what we observed in the lower portion of the exposed lift. For these reasons, and after conferring with Steve Lowell on the phone, we did not layout any additional rock dowels for this area.

We examined the newly exposed, upper 12 feet of the lift roughly between Stations 1318+50 and 1320+50 (Figure 1). The rock mass consisted of very closely fractured (thin platy fracture), reddish brown to dark gray, highly altered/weathered aphanitic basalt (or possibly argillite). We observed very few preshear holes in the excavated face. We did not observe any adversely oriented, persistent discontinuities that would influence cut stability, but the highly fractured and somewhat dilated nature of the exposed rock that would indicate a long-term stability issue for at least shallow instability of the 0.5H:1V cut. Western State drillers indicated this very poor quality rock likely persists for the full depth of the lift. Drill cuttings from the preshear holes being drilled at Station 1320+50 were light greenish gray in color (with a noted exception of reddish brown cuttings between Stations 1321+75 to 1322+00), suggesting that rock quality should improve ahead on station. We told Brad that we were not prepared to provide recommendations for this newly exposed area without first conferring with Steve and Norm, but that additional stabilization work might be needed for this area. I spoke with Steve, and he asked that we ask the contractor to drill several exploratory drill holes into the face to probe for the extent of this poor quality zone. The contractor was not able to complete this prior to our leaving, due to equipment difficulties. We plan to review existing geotechnical data and then determine the necessity for additional investigation (possibly geotechnical borings). We will be performing additional stability analyses based on the



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existing information to determine the need, extent, and type of additional stabilization. The contractor need not be delayed while we evaluate this area and develop our recommendations. If we determine that additional stabilization is needed, this work will likely have to be done after the excavation work is completed.

At Station 1327+50, NWC was reportedly encountering soil in drilling for the crest dowels within a 35 ft wide zone, and had increased the inclination of the drill holes to 30 degrees, and had apparently still not encountered rock in several holes. We examined the cuttings and noted that the material consisted of a very weak, altered/weathered lapilli tuff, and that it was likely not soil. Despite the apparent poor rock quality, we recommended to Brad that they proceed with the crest dowel installation as planned.

At Station 1338, the contractor had built a 5 to 10 ft high bench out of shot rock to provide a bench for NWC drilling of dowels and Type L bolts. The contractor was drilling anchor locations at least 6 ft above the bench with no apparent access difficulties, except for the chuck tender who was climbing on the drill mast for access (Figure 2). Around the 2 easternmost anchors, several small (~2-3 cubic yard) failures had occurred around the drill hole collars (Figure 3). We recommended that very light machine scaling (or preferably hand scaling) be done to clean up the remaining loose rocks. Some additional short dowels may be needed for this area, but could be installed at a later date with lightweight drill equipment, to avoid further damage to the face. We would examine this area again after the loose rock was removed, and determine what, if any, additional reinforcement was needed.

We left the site at 3 PM



Figure 1A. Recently excavated lift between Stations 1319+00 and 1320+50.



Figure 1B. View of highly altered, basalt (argillite?) with very closely spaced fractures.





Figure 2. NW Cascade's drill for rock dowels/bolts. Note that the boom is not fully extended horizontally or vertically, indicating higher reach capacity.



Figure 3. Small slope failures around Station 1338 around drill holes for rock anchors.